Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	19 Apr 2021	Initial Document
2	Draft	J. Lim	21 Jun 2021	Validation and Template layout updated
3	Draft	J. Lim	21 Jul 2021	Updated template layout, attribute section, attribute data dictionary, GUI details and reference

Title	Credit SWAP Index Template Definition		
Background	The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product: • **Credit : Swap : Index**	**DSB-ID**	**UPI-0194**
		Type	New Template
		Owner	J.Lim
		Version	3
		State	Draft
Terms of Reference			
Scope	• This CRF specifies the product definition required for the generation / retrieval of a UPI only. • This CRF covers both the input (Request) and output (Record) templates. • Support for local jurisdiction / alternate underlier identifier input is currently out of scope. • Support for CFI 2019 values is currently out of scope.		
Requirements	• The product definition will conform to ISO 4914 (UPI). • Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN. • The product definition will return a product short name (FISN). • All UPI records stored on the DSB RDL will include the ISO 10962 (CFI) code associated with the UPI along with an equivalent text value for all attributes that are included in the definition of the CFI.		
Dependencies	• This specification is dependent on final sign-off of the ISO 4914 (UPI) specification. • This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI. • This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes. • This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration. • This specification is dependent on the provision of a human-readable alias for the primary underlier for inclusion in the Short Name (FISN) and a human-readable alias for the Contract Specification. • The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review.		
Assumptions	• This specification assumes that, unless stated, all values and behaviours are based on those of the equivalent OTC ISIN product definition. • This specification assumes that no input values are to be defaulted by the system. • This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN. • This specification is based on the DSB's current equivalent OTC ISIN product definition. • This specification is based on the attributes and values defined in ISO 10962 (CFI:2015). • In order to provide an example Short Name, this specification defines a format for this attribute that may not conform to the eventually agreed FISN format for the UPI. This specification assumes that the Short Name is defined using the same attributes (where available) as the OTC ISIN Short Name. • Where possible, this specification derives GUI details from the ISO 4914 (UPI) specification for attributes that are not included in the current OTC ISIN product definition. • The display information in the GUI for the existing attributes (and values) are taken from the OTC ISIN. If such information contains an "ISIN" in the description, replace the value into "UPI". • The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.		

	• The specification assumes that underlying instrument index term unit/value is to be included as part of the definition of the underlier. • The specification for underlying debt issuance tenor period/underlying debt issuance tenor period multiplier is subject for review and approval by CDIDE as part of ISO 4914 standard.

Request Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	Origin
Header Section	Asset Class	Set	M	Credit		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Index			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	**Underlier Type (oneOf)**	String	M	Proprietary Index	[Proprietary Index]		NEW
	Underlier ID Source	String	M	PROP	[PROP]	Internal	NEW
	Underlier ID	Enum	M	11423-BCRICSTI	MrktCreditIndex.json	Markit Indices	NEW
	Underlier Type (oneOf)	String	M	Credit Index	[Credit Index]		NEW
	Underlier ID Source	String	M	MRKT	[MRKT]	Internal	NEW
	Underlier ID	Enum	M	ITRAXX EUROPE	MrktCreditIndex.json	Markit Indices	NEW
	Underlying Instrument Index Term Value	Integer	C	3	-999 to 999 (excluding 0)		ISIN
	Underlying Instrument Index Term Unit	Enum	C	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Underlying Credit Index Series	Integer	C	35	1-999		ISIN
	Underlying Credit Index Version	Integer	C	1	1-999		ISIN
	Underlying Issuer Type	Enum	M	Corporate	[Corporate, Sovereign, Local]	CFI:2015 Char#5 (SC****)	ISIN
	Delivery Type	Enum	M	OPTL	[CASH, PHYS, OPTL]	ISO 20022	ISIN

Record Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	Origin
Header Section	Asset Class	Set	M	Credit		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Index			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Underlying instrument Index	String	C	ITRAXX EUROPE	MrktCreditIndex.json (See CRF Validations)	Markit Indices	ISIN
	Underlying instrument Index Prop	Enum	C	11423-BCRICSTI	See CRF (Validations)	DSB Proprietary Index Enumerations	ISIN
	Underlying Instrument Index Term Value	Integer	C	3	-999 to 999 (excluding 0)		ISIN
	Underlying Instrument Index Term Unit	Enum	C	MNTH	[DAYS, WEEK, MNTH, YEAR]	ISO 20022	ISIN
	Underlying Credit Index Series	Integer	C	35	[1-999]		ISIN
	Underlying Credit Index Version	Integer	C	1	[1-999]		ISIN
	Underlying Issuer Type	Enum	M	Corporate	[Corporate, Sovereign, Local]	CFI:2015 Char#5 (SC****)	ISIN
	Delivery Type	Enum	M	OPTL	[CASH, PHYS, OPTL]	ISO 20022	ISIN
Identifier Section	Identifier	String	D	QZ2093KD9L25	See UPI Document (UPI Code structure and Annex C)	ISO 4914	NEW
	Status	String	D	New			ISIN
	Status Reason	String	D	<null>	Not applicable to a New record		ISIN
	Last Update Date Time	DtTm	D	2020-11-30T00:00:13	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	SCICCA	See CRF (Derivations)	ISO 10962:2015	ISIN
	Short Name	String	D	NA/CDS Corp Idx	See CRF (Derivations)	ISO 18874	NEW
	Underlying Asset type	String	D	Index	Fixed value	CFI:2015 Char#3 (SCI***)	ISIN
	Return or Payout Trigger	String	D	Credit Default	Fixed value	CFI:2015 Char#4 (SC*C**)	ISIN
	CFI Delivery Type	String	D	Auction	See CRF (Derivations)	CFI:2015 Char#6 (SC****)	NEW

Product Definition	
Attributes	See Template Layout (above). **a) Underlier Type** The Request template described in this document supports products that can be defined on the basis of more than one type of underlier. For this product, the user is asked to select one of the following: • Proprietary Index • Credit Index ** Please see Underlier Input Method Document (see Reference Section below) for further details.*
Validation	**1. Underlier ID** The following validation will be applied to Underlier ID based on the value selected on Underlier ID Source [MRKT, PROP]. a. MRKT • Enumeration list is based on JSON codeset (MrktCreditIndex.json). b. PROP • The input text by user must exist in the DSB Proprietary Index Enumeration.

- The Proprietary index is made on a per asset class and only relevant to the particular asset class based on DSB data. The only exception is asset class "Other" which is applicable to all asset classes.
- If the input Prop Index does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message "Error: Given Proprietary Indices must be valid for Asset Class Credit or Other".

2. Underlying Credit Index Series / Underlying Credit Index Version

The following validations will apply if the Underlier ID source selected is MRKT.

- The input text by the user must be a positive integer from 1 to 999.
- If the input text has a prefix of negative (-), an error message will apply: "Value must be at least 1."
- If the input contains negative (-) after the integer, an error message will apply "Value must be of type integer. Value must be at most 999. Value must be at least 1."
- If the input text contains character, remove the character and retain the integer if exist.

3. Underlying Instrument Index Term Value / Underlying Instrument Index Term Unit

i. If the underlier ID Source is "MRKT"

- Underlying Instrument Index Term Unit/Value will be present in the request message.
- The input text for Underlying Instrument Term value must be an integer (positive or negative but not 0).
- If the input text is more than the value of 999, an error message will apply "Value must be at most 999.".
- If the input text is more than the value of -999, an error message will apply "Value must be at least -999.".
- If input text is equal to "0", an error message will apply "Value must not validate against the provided schema. Value can't be 0.".

ii. If the Underlier ID Source is "PROP", the attributes will not be present in the request message.

Attribute Data Dictionary

This section provides the exact reference or source of the attribute.

Full Name	Source	Type
Delivery Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CASH; PHYS; OPTL]*
CFI Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Cash; Physical; Auction]*
Underlying Issuer Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Corporate; Sovereign; Local]*
Underlying instrument Index	Markit Indices	Max of 350Text (based on string) minLength: 1 maxLength: 350
Underlying Instrument Index Prop	DSB Proprietary Index Enumerations	(Based on string)
Underlying Credit Index Series	Positive integer (1 – 999)	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Credit Index Version	Positive integer (1 – 999)	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Instrument Index Term Value	Integer – Positive or negative but not 0	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3

	Underlying Instrument Index Term Unit	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Max35Text (based on string) minLength: 1 maxLength: 35

Normalization

1. **Underlying Index Term Value and Underlying Index Term Unit**
The following normalization will apply if the underlier ID source selected is MRKT. If the Underlier ID source is PROP, remove the attributes in the input templates.
   - If Underlying Instrument Index Term Unit = “DAYS” and Underlying Instrument Index Term Value is divisible by 7, record it in weeks

Underlying Instrument Index Term Value	7	→	Underlying Instrument Index Term Value	1
Underlying Instrument Index Term Unit	DAYS		Underlying Instrument Index Term Unit	WEEK

   - If Underlying Instrument Index Term Unit = “MNTH” and Underlying Instrument Index Term Value is divisible by 12, record it in years

Underlying Instrument Index Term Value	12	→	Underlying Instrument Index Term Value	1
Underlying Instrument Index Term Unit	MNTH		Underlying Instrument Index Term Unit	YEAR

Derivation

This section provides additional details to the derivation logic specified in the Template Layout sections (above).

Classification Type

Concatenation of the following attributes/values:
- Instrument Type: “S”
- Asset Class: “C”
- Underlying Asset Type: “I”
- Return or Payout Trigger: “C”
- Underlying Issuer Type: from Request.UnderlyingIssuerType
  - *Corporate →* *C*
  - *Sovereign →* *S*
  - *Local →* *L*
- Delivery Type: from Request.DeliveryType
  - *CASH →* *C*
  - *PHYS →* *P*
  - *OPTL →* *A*

E.g.: “SCICCA”

Short Name

Concatenation of the following attributes/values:
- Issuer Name: “NA/”
- Instrument Type: “CDS” (fixed value)
- Underlying Issuer Type: from Request.UnderlyingIssuerType
  - *Corporate →* *Corp*
  - *Sovereign →* *Sov*
  - *Local →* *Mun*
- Underlying Asset Type: “Idx” (fixed value)

E.g.: “NA/CDS Corp Idx”

Note: The Short Name is based on the OTC ISIN that excludes the following fields:
- *Notional Currency*
- *Expiry Date*

CFI Delivery Type

Derived from the input Delivery Type…
- CASH → “Cash”
- PHYS → “Physical”
- OPTL → “Auction”

GUI Details

The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.

Attribute	Display Name	Tool Tip (and • *value elaboration*)
Underlier Type	Underlier Type	Indicates the type of underlying asset or entity on which the product is based.
Underlier ID	Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index
Underlier ID Source	Underlier ID Source	The origin, or publisher, of the associated underlier ID.

	UPI	Identification	Unique Product Identifier (ISO 4914).
	CFI Delivery Type	CFI Delivery Type	The Delivery Type as defined by CFI code: ISO 10962 • *As defined by CFI Code: ISO 10962*

Additional Information	
Reference	References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].
Comments	• Text values in the Short Name are taken from "ISO Abbrev w acronyms-Final_v0.5.5.FINAL." • The Contract Specification only applies to Credit.Swap.Corporate; Credit.Swap.Municipal; Credit.Swap.Sovereign & Credit.Swap.Non_Standard and does not apply to Credit.Swap.Loan; Credit.Swap.ABS; Credit.Swap.Index; Credit.Swap.Index_Tranche; & Credit.Swap.Total_Return_Swap. • Debt Seniority does not apply for Index and Index Tranche. In DSB OTC ISIN, debt seniority has no value and is included in the template, however in UPI the attribute is removed instead of having no value in the template. • Codeset name for Credit Indices must be amended from FpmlCreditIndex.json to MrktCreditIndex.json. • Underlying Instrument Index Term Unit/value are required fields in the DSB OTC ISIN having a default value of 0 if Underlying Instrument Index PROP is selected. In the case of UPI, if PROP is selected as underlier ID source, these attributes will be removed instead of default to 0. • Underlying Credit Index Series/Version are required fields in the DSB OTC ISIN having a default value of 0 if Underlying Instrument Index PROP is selected. In the case of UPI, if PROP is selected as underlier ID source, these attributes will be removed instead of default to 0.

<table>
<tr><td rowspan="17">ISO 4914 Equivalence</td><td colspan="2">ISO 4914</td><td>Request Attribute</td><td>Record Attribute</td></tr>
<tr><td>Asset Class</td><td>M</td><td>Asset Class</td><td>Asset Class</td></tr>
<tr><td>Instrument Type</td><td>M</td><td>Instrument Type</td><td>Instrument Type</td></tr>
<tr><td rowspan="2">Delivery Type</td><td rowspan="2">M</td><td rowspan="2">Delivery Type</td><td>Delivery Type</td></tr>
<tr><td>CFI Delivery Type</td></tr>
<tr><td>Return, pricing method or payout trigger</td><td>M</td><td>Not Required</td><td>Return or Payout Trigger</td></tr>
<tr><td>Seniority*</td><td>M</td><td colspan="2">Not Required</td></tr>
<tr><td>Standard Contract Specification**</td><td>C</td><td colspan="2">Not Required</td></tr>
<tr><td rowspan="2">Underlier ID</td><td rowspan="2">C</td><td rowspan="2">Underlier ID</td><td>Underlying Instrument Index</td></tr>
<tr><td>Underlying instrument Index Prop</td></tr>
<tr><td>Underlier ID Source</td><td>C</td><td>Underlier ID Source</td><td>Not Required</td></tr>
<tr><td>Underlier Type</td><td>M</td><td>Not Required</td><td>Underlying Asset Type</td></tr>
<tr><td>Underlier sub-type (first level)</td><td>M</td><td colspan="2">Underlying Issuer Type</td></tr>
<tr><td>Underlying Credit Index Series</td><td>C</td><td colspan="2">Underlying Credit Index Series</td></tr>
<tr><td>Underlying Credit Index Version</td><td>C</td><td colspan="2">Underlying Credit Index Version</td></tr>
<tr><td>Underlying Debt Issuance Tenor Period***</td><td>C</td><td colspan="2">Not Required</td></tr>
<tr><td>Underlying Debt Issuance Tenor Period Multiplier***</td><td>C</td><td colspan="2">Not Required</td></tr>
</table>

* Seniority applies only if the underlying is either a Legal Entity or Debt Instrument. For this product, the underlying is either a Credit Index or Proprietary Indices and so this attribute is not required.
**Standard Contract Specification does not apply for this product, refer to comments section above.

***Dependent on ISO review and approval for the inclusion of Underlying Debt Issuance Tenor Period/Multiplier as ISO 4914 (UPI) Conditional attributes.